

Claims:

1. An instrument for cutting tissue guided along a guide wire comprising:
a proximal end having a housing;
a shaft extending from said housing to a distal end with an opening;
a guide tube extending from said distal end through said opening;
a path through said guide tube along said shaft and said housing for extending a
guide wire; and

means for longitudinally cutting tissue having a blade extendable and retractable
through said opening of said distal end along said guide tube

2. The instrument according to Claim 1 wherein said longitudinally cutting
means provides a cut of a predetermined depth and width.

3. The instrument according to Claim 1 wherein said longitudinally cutting
means further comprises means at said housing coupled to said blade for remotely
controlling the extending and retracting of said blade at said distal end.

4. The instrument according to Claim 1 wherein said guide tube is stationary
in said distal end, and said longitudinally cutting means further comprises a blade shuttle
attached to said blade having a longitudinal channel within which said guide tube is
located to linearly guide said blade shuttle travel at said distal end.

5. The instrument according to Claim 4 wherein said longitudinally cutting
means further comprises:

a pivotal actuator member at said housing;
one or more drive rods or tubes each having a distal end coupled to said blade
shuttle and a proximal end coupled to said actuator member in which pivoting of said
actuator member controls said extending and retraction of said blade shuttle.

6. The instrument according to Claim 1 wherein when a guide wire is extended along said path, said distal end is located adjacent tissue along said guide wire to be cut when said blade is extended.

7. The instrument according to Claim 1 wherein said shaft is extendable through an endoscope.

8. An instrument for cutting tissue guided along a guide wire comprising:
a shaft extending to a distal end with an opening;
a stationary guide tube extending from said distal end through said opening for receiving a guide wire into said shaft; and
a movable blade shuttle having a blade, said blade shuttle having a longitudinal channel within which said guide tube is located to linearly guide said blade shuttle travel at said distal end when said blade shuttle is extended from said opening or retracted back through said opening.

9. The instrument according to Claim 8 further comprising a housing coupled to said shaft and means for remotely controlling movement of said blade shuttle at said distal end to cut tissue.

10. The instrument according to Claim 1 wherein said shaft is rigid or at least partially flexible.

11. A method for cutting tissue guided along a guide wire using an instrument having a shaft with a distal end, said method comprising the steps of:
passing a guide wire through the shaft from the distal end thereof;
guiding the distal end of the instrument adjacent the tissue to be cut with the aid of the guide wire;
extending a blade from the distal end of the instrument to provide a longitudinally incision in the tissue; and
retracting the blade from the distal end.

12. The method according to Claim 11 wherein said tissue represents a tubular tissue structure through which said distal end of the instrument is guided by the guide wire and said blade when extended provides the longitudinally incision along a narrowed region of the tubular structure.

13. The method according to Claim 12 wherein said incision has two ends, and said method further comprising the step of pulling said ends of the incision together to increase the diameter of said tubular structure at said narrowed region.

14. The method according to Claim 13 further comprising the step of securing closed said incision to maintain said increased diameter of said tubular structure at said narrowed region.